

Listing of Claims

Claims 1 (currently amended) A homogenizer for collimated light comprising:
a total internal reflection light guide having a first refractive index, said light guide having an entrance, an upper surface, and a lower surface;
a mild diffuser covering said entrance, said mild diffuser having a controlled scattering angle of less than about eight degrees;
an optical constraining layer having a third refractive index and disposed on said optical restraining layer;
said third refractive index being greater than said second refractive index and said second refractive index being slightly less than said first refractive index.

Claim 2 (original) The homogenizer of claim 1 further comprising:
a second constraining layer having said second refractive index and disposed on a surface of said light guide opposite said one surface; and
a second absorbing layer having said third refractive index and disposed on said second optical constraining layer.

Claim 3 (currently amended) The homogenizer of claim 2 wherein said optical constraining layers each comprises a pressure sensitive adhesive and said optical absorbing layers each comprises ~~an~~ a black ~~polyimide~~ polyimide.

Claim 4 (canceled)

Claim 5 (currently amended) The ~~homogenizer~~ homogenizer of claim 1 wherein said light guide is acrylic with a refractive index of 1.4893, said optical restraining layer is an acrylic pressure sensitive adhesive having a refractive index of 1.4800, and said optical constraining absorbing layer is black polyimide with a refractive index between 1.64 and 1.67.

Claims 6 and 7 (canceled)

Claim 8 (currently amended) The homogenizer of claim 7 1 wherein said mild diffuser has a controlled scattering angle of +/- five degree full-width half maximum scatter.

Claim 9 (currently amended) The homogenizer of claim 1 wherein said mild diffuser is positioned directly in front of and adjacent said light guide entrance.

Claim 10 (original) The homogenizer of claim 1 wherein said mild diffuser is embossed on said light guide entrance.

Claim 11- 15 (canceled)

Claim 16 (currently amended) An optical light guide for distributing light comprising:

a transparent slab light guide having a first refractive index, an entrance with a mild diffuser surface embossed thereon, said mild diffuser surface having a controlled scattering angle of less than about eight degrees, a constant cross-section region, and a wedge shaped light extraction region;

 said constant cross-section region including an upper surface and a lower surface;

 optical constraining layers having a second refractive index disposed on said upper and lower surfaces; and

 optical absorbing layers having a third refractive index disposed on said optical constraining layers,

 said third refractive index being greater than said second refractive index and said second refractive index being slightly less than said first refractive index.

Claim 17 (canceled)

Claim 18 (currently amended) The optical light guide of claim 47 16 wherein said mild diffuser surface has a controlled scattering angle of less than +/- five degree full-width half-maximum scatter.

Claim 19 (new) In combination, an array of discrete collimated light sources, a homogenizer comprising

a light extraction guide having a first refractive index, said light guide having an entrance, an upper surface, and a lower surface,

an optical constraining layer having a second refractive index and disposed on one of said surfaces of said light guide, and

an optical absorbing layer having a third refractive index and disposed on said optical restraining layer, said third refractive index being greater than said second refractive index and said second refractive index being slightly less than said first refractive index, and

a mild diffuser covering said entrance, said discrete collimated light sources directing collimated light through said mild diffuser into said light extracting guide and said mild diffuser having a controlled scattering angle of less than eight degrees.

Claim 20 (new) The combination of claim 19, wherein said mild diffuser has a controlled light scattering angle of less than +/- 5 degree full-width half-maximum scatter.

Claim 21 (new) The combination of claim 19 wherein said array of discrete collimated light sources comprises a plurality of non-imaging collimators optically driven from a plurality of optical fibers.

Claim 22 (new) The combination in accordance with claim 21 wherein said homogenizer further comprises

a second optical constraining layer having said second refractive index and disposed on a surface of said light guide opposite to said one surface, and

a second absorbing layer having said third refractive index and disposed on said second optical constraining layer.

Claim 23 (new) The combination of claim 22 wherein said optical constraining layers each comprises a pressure sensitive adhesive and said optical absorbing layers each comprises a black polyimide.

Claim 24 (new) The combination of claim 21 wherein said light extraction guide is a transparent slab with a constant cross section and said mild diffuser is embossed on said slab at said light guide entrance.

Claim 25 (new) The combination of claim 21 wherein said light extraction guide has an exit surface further comprising a wedge shaped light extraction guide positioned adjacent said exit surface.